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EXAMINER

MAHMOOD, REZWANUL

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,998	Applicant(s) YAGAWA, YUICHI	
	Examiner REZWANUL MAHMOOD	Art Unit 2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-12,15,18-26 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-12,15,18-26 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the communication filed on March 31, 2008. Claims 1-3, 5-12, 15, 18-26, and 29-33 are pending in this office action.

Response to Arguments

Applicant's arguments filed on March 31, 2008 have been fully considered but they are not persuasive for the following reasons:

Applicant argues that Peters, Vaughn and Wisner do not teach or even suggest the features "calculating an interest metric at each of said at least one second data storage systems based on said profile information", "communicating said interest metrics from each of said at least one second data storage systems to the first data storage system", "selecting at least one target second data storage system at the first data storage system based upon the interest metrics; and copying said first data object to each target second data storage system".

Examiner respectfully disagrees all of the allegations as argued. Examiner, in his previous office action, gave detail explanation of claimed limitation and pointed out exact locations in the cited prior art.

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification. See MPEP 2111 [R-1]

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the

opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 162 USPQ 541,550-51 (CCPA 1969).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Peters teaches in column 3 lines 59-67, column 4 lines 18-29 and 51-64, column 5 lines 48-64 and column 13 lines 19-44 from a first storage managing sending of files to at least one second storage and also managing receiving of file from at least one second storage, producing profile information for objects stored in the first storage system, the profile comprising storage identifiers, file names and characteristics. However, Peters does not explicitly disclose communicating the profile information to other storage systems. The Vaughan reference, however, teaches in paragraphs 7, 15, 19, 20, and 22 and figures 1-5 communicating profile information from one storage system to another storage system and calculating from the profile interest metrics with respect to the requested data. Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the teachings of Peters with the teachings of Vaughan to calculate an interest metric at each of said at least one second data storage systems based on said profile information, communicating said interest metrics from each of said at least one second data storage systems to the first data storage system, selecting at least one target second data

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storage system at the first data storage system based upon the interest metrics and copying said first data object to each target second data storage system.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

Applicant's arguments with respect to claims 31-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claims 1, 18, 29, and 30 are objected to because of the following informalities:

In line 1 of claims 1, 18, 29, and 30 the phrase "A method" should be "A computer-implemented method". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peters (US Patent 4,999,766) in view of Vaughan (US Publication 2003/0192040).

With respect to claim 1, Peters discloses a method for distributing data among a plurality of data storage systems comprising:

producing profile information for a first data object that is stored in a first data storage system, said profile information comprising content-based information associated with said first data object (Peters: Column 4, lines 18-29 and 51-64; Column 13, lines 19-44; Claim 1);

However, Peters does not explicitly disclose:

communicating said profile information from the first data storage system to at least one second data storage system in said plurality of data storage systems;

The Vaughan reference, however, discloses communicating profile information to a second computer system (Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the teachings of Peters with the teachings of Vaughan to communicate profile information to one second data storage system for selecting software based on the profile (Vaughan: Paragraph 7, lines 4-6).

Peters in view of Vaughan discloses:

calculating an interest metric at each of said at least one second data storage systems based on said profile information and on selection criteria maintained at said each of said at least one second data systems (Peters: Column 4, lines 18-29 and 51-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

communicating said interest metrics from each of said at least one second data storage systems to the first data storage system (Peters: Column 4, lines 18-29 and 51-

64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

selecting at least one target second data storage system at the first data storage system based upon the interest metrics (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Figures 3-5); and

copying said first data object to each target second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Figure 1; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1),

wherein said first data object is copied to said each target second data storage system depending on content-based information associated with said first data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

Claims 2, 3, 5-12, 15, 18-26, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters (US Patent 4,999,766) in view of Vaughan (US Publication 2003/0192040) as applied to claim 1 above, and further in view of Wisner (US Publication 2002/0163910).

With respect to claim 2, Peters in view of Vaughan discloses the method of claim 1, however, does not explicitly disclose wherein said first data storage system comprises a server component in communication with a data storage component.

The Wisner reference, however, discloses claimed first data storage system comprising a server component in communication with a data storage component (Wisner: Paragraph 9, lines 2-13; Figure 1).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the teachings of Peters and Vaughan with the teachings of Wisner to have a data storage system comprising a server component for a system and method for providing access to resources (Wisner: Paragraph 1, lines 1-2; Paragraph 9, lines 2-7).

With respect to claim 3, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 2 wherein said second data storage system comprises a server component in communication with a data storage component (Peters: Figure 1; Wisner: Paragraph 9, lines 2-13; Figure 1).

With respect to claim 5, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 1 further comprising:

receiving interest metrics at said first data storage system from each of a plurality of second data storage systems (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Figure 1; Vaughan: Paragraph 7, lines 1-9;

Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

producing an ordered set of target second data storage systems from said plurality of second data storage systems, ordered according to said interest metrics (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Figure 1; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

communicating said first data object to the first N of said target second data storage systems in said ordered set (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Figure 1; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 6, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 1, further comprising:

communicating said first data object to said data storage system if its interest metric exceeds a predetermined threshold (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 7, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 1, wherein said interest metric indicates whether or not to communicate said first data object to said second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan:

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Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 8, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 7 wherein if the interest metric indicates not to copy said first data object to said target second data storage system, then determining a replication site from among said second data storage systems independently of content of said first data object and copying said first data object to said replication site (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 9, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 18 wherein said selection criteria are stored in said first data storage system, said method further comprising communicating said first data object to said at least one target second data storage system based on said interest metric and a predetermined criterion (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 10, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 9 further comprising additional selection criteria for an additional second data storage system, said method further comprising communicating said first data object to said additional second data storage system based on said profile information and said additional selection criteria (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 11, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 18 wherein said selection criteria are stored in a selection server system separate from said first data storage system and from said second data storage system, said method further comprising:

communicating said profile information to said selection server system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Figure 1); and

receiving a selection indication from said selection server system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1),

wherein said first data object is selectively communicated to said second data storage system depending on said selection indication (Peters: Column 4, lines 18-29

and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Fig. 1).

With respect to claim 12, Peters in view of Vaughan and in further view of Wisner discloses a distributed data storage system comprising a plurality of data servers, each data server comprising:

- a client interface component configured for communication with one or more clients to exchange data (Peters: Figure 1; Wisner: Figure 1);

- a data storage interface component configured for data communication with a data storage component (Peters: Figure 1; Wisner: Figure 1); and

- a data processing component configured to:

- produce profile information associated with a first data object that is stored in said data storage component, said profile information comprising content-based information associated with content of said first data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

- communicate said profile information to a plurality of candidate data servers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1);

generate, at each of said plurality of candidate data servers, an interest metric based on the profile information and selection criteria maintained at each of said plurality of candidate data servers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

receive interest metrics at said data storage component from each of said candidate data servers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

copy said first data object to one or more of said candidate data servers based on the interest metrics selection indications received from said candidate data servers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1),

wherein an interest metric selection indication is produced by a candidate data server and is based on selection criteria stored in said candidate data server and on said profile information (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 15, Peters in view of Vaughan and in further view of Wisner discloses the data storage system of claim 12 wherein said interest metrics are binary indicators that indicates whether or not to copy said first data object to each of said candidate data servers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Paragraph 78, lines 1-13; Figure 1).

With respect to claim 18, Peters in view of Vaughan and in further view of Wisner discloses A method for distributing data among a plurality of data storage systems comprising:

obtaining selection criteria in a first data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

producing profile information for a first data object that is stored in said first data storage system, said profile information comprising content-based information associated with said first data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

communicating the selection criteria and the profile information to at least one second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines

48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

generating, at said at least one second data storage system, an interest metric based on the selection criteria and the profile information (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Fig. 1);

receiving the interest metric at the first data storage system from said at least one second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

selecting at least one target second data storage system at the first data storage system based upon the interest metric (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

copying said first data object to said at least one target second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 19, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 18 further comprising receiving, at said first data storage

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system, said selection criteria from one or more data storage systems other than said first data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 20, Peters in view of Vaughan and in further view of Wisner discloses a data system comprising:

- a plurality of data centers (Peters: Figure 1; Wisner: Figure 1); and
- a plurality of client systems in data communication with said data centers, each data center comprising (Peters: Figure 1; Wisner: Figure 1):
 - a data storage component (Peters: Figure 1; Wisner: Figure 1);
 - a file server component operable to exchange data between a client system and said data storage component (Wisner: Figure 1);
 - a replicator component (Wisner: Figure 1; Figure 3);
 - a receiver component (Peters: Figure 1; Figure 3); and
 - file selection criteria (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1),
- wherein said replicator component is operable to produce profile data for a data object that is to be replicated among one or more candidate target data centers, to communicate said profile data to at least one of said candidate target data centers, to

receive an interest metric from each of said candidate target data centers, and to selectively communicate said data object to a candidate target data center based on its interest metric, said profile data representative of content of said data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1),

wherein said receiver component is operable to receive the profile data information from a source data center and to generate an interest metric based on the profile data and selection criteria maintained in said receiver component, said receiver component further operable to communicate the interest metric to said source data center for selectively copying said data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 21, Peters in view of Vaughan and in further view of Wisner discloses the system of claim 20 wherein said candidate target data centers are ordered to produce an ordered set based on their corresponding interest metrics and said replicator component is further operable to communicate said data object to the first N target data centers selected from said ordered set (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 22, Peters in view of Vaughan and in further view of Wisner discloses the system of claim 20 wherein said replicator component communicates said data object to a candidate target center if its interest metric exceeds a predetermined threshold (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 23, Peters in view of Vaughan and in further view of Wisner discloses the system of claim 20 wherein said interest metric is an indication of whether or not to communicate said data object to said candidate target data center (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 24, Peters in view of Vaughan and in further view of Wisner discloses a data system comprising:

- a plurality of data centers (Peters: Figure 1; Wisner: Figure 1); and

- a plurality of client systems in data communication with said data centers (Peters: Figure 1; Wisner: Figure 1),

- each data center comprising:

 - a data storage component (Peters: Figure 1; Wisner: Figure 1);

 - a file server component operable to exchange data between a client

system and said data storage component (Wisner: Figure 1);

a replicator component (Wisner: Figure 1; Figure 3); and

a collection of selection criteria comprising selection criteria provided from other data centers (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1),

wherein said replicator component is operable to produce profile data for a data object that is to be replicated among one or more candidate target data centers, to communicate said profile data to at least one of said candidate target data centers, and to selectively communicate said data object to said candidate target data centers based on an interest metric corresponding to each of said candidate target data centers, said profile data representative of content of said data object (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Fig. 1), and

wherein at least one of said candidate target data centers is operable to receive the profile data, calculate the interest metric based on the profile data and said selection criteria, and communicate said interest metric to said replicator component (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 25, Peters in view of Vaughan and in further view of Wisner discloses the system of claim 24 wherein said replicator module is operable to produce based on said collection selection criteria and on said profile data a plurality of interest metrics, each interest metric corresponding to a data center, wherein said candidate target data centers are ordered to produce an ordered set based on their corresponding interest metrics, wherein said replicator component is further operable to communicate said data object to the first N target data centers selected from said ordered set (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 26, Peters in view of Vaughan and in further view of Wisner discloses the system of claim 24 wherein said replicator component communicates said data object to a candidate target center if its interest metric exceeds a predetermined threshold (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1; Wisner: Paragraph 24, lines 1-15; Paragraph 57, lines 1-14; Figure 1).

With respect to claim 29, Peters in view of Vaughan and in further view of Wisner discloses a method for distributing data to a plurality of data storage systems in

accordance with content-based interest metrics corresponding to each of said data storage systems, the method comprising:

producing a profile containing information representative of the content of a first data object stored in a first data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

receiving interest information from a plurality of distinct second data storage systems specifying one or more categories of information requested for storage at each of said plurality of second data storage systems (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

calculating interest metrics for each of the plurality of second data storage systems with respect to the first data object using the profile information and the interest information (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

selecting one or more target second data storage systems to receive the first data object based upon their respectively calculated interest metrics (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

copying said first data object from said first data storage system to said one or

more target second data storage systems (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

With respect to claim 30, Peters in view of Vaughan and in further view of Wisner discloses a method for distributing data among a plurality of data storage systems comprising:

receiving profile information representative of the content of a first data object stored in a first data storage system at a directory server (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Fig. 1);

receiving at the directory server interest information from a plurality of second data storage systems specifying one or more categories of information requested for storage at each of said plurality of second data storage systems (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

calculating at the directory server interest metrics for each of the plurality of second data storage systems with respect to the first data object using the profile information and the interest information (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

transmitting said interest metrics from the directory server to the first data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1);

selecting at the first data processing system one or more target second data storage systems to receive the first data object based upon the interest metrics calculated at the directory server (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1); and

copying said first data object to said one or more target second data storage system (Peters: Column 4, lines 18-29 and 51-64; Column 5, lines 48-64; Column 13, lines 19-44; Vaughan: Paragraph 7, lines 1-9; Paragraph 19, lines 1-14; Paragraph 20, lines 1-3; Paragraph 22, lines 1-4; Figure 1).

Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters (US Patent 4,999,766) in view of Vaughan (US Publication 2003/0192040) and in view of Wisner (US Publication 2002/0163910) as applied to claims 2, 3, 5-12, 15, 18-26, and 29-30 above, and further in view of Barker (US Publication 2002/0143976).

With respect to claim 31, Peters in view of Vaughan and in further view of Wisner discloses the method of claim 1, however, do not explicitly disclose updating metadata at the first data storage system with an identifier of the at least one target second data

storage system to which the first data object is copied.

The Barker reference, however, discloses updating metadata and providing a notification message comprising asset identifier of the asset identifier of the asset for which updated metadata is available and the metadata storage device locator, which identifies in which metadata storage device the updated metadata is stored (Barker: Abstract, lines 1-16; Paragraph 28, lines 1-18; Paragraph 29, lines 1-14).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify the teachings of Peters, Vaughan and Wisner with the teachings of barker to update metadata at the first storage system with an identifier of the at least one target second data storage system to which the first data object is copied for an asset provider to update metadata associated with an asset and to distribute the updated metadata to one or more distribution endpoints (Barker: Paragraph 8, lines 6-8).

With respect to claim 32, Peters in view of Vaughan in further view of Wisner and in further view of Barker discloses the data storage system of claim 12 wherein said data processing component is configured to update metadata stored by said data storage component with identifiers of the one or more candidate data servers to which the first data object is copied (Barker: Abstract, lines 1-16; Paragraph 28, lines 1-18; Paragraph 29, lines 1-14).

With respect to claim 33, Peters in view of Vaughan in further view of Wisner and in further view of Barker discloses the method of claim 18 further comprising updating metadata at the first data storage system with an identifier of the at least one target second data storage system to which the first data object is copied (Barker: Abstract, lines 1-16; Paragraph 28, lines 1-18; Paragraph 29, lines 1-14).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Shoup reference (US Publication 2002/0147734) teaches about storage policy. The Gupta reference (US Publication 2005/0102273) teaches about interest metrics.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REZWANUL MAHMOOD whose telephone number is (571)272-5625. The examiner can normally be reached on M - F 10 A.M. - 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571)272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. M./
Examiner, Art Unit 2164

July 6, 2008

/Charles Rones/

Supervisory Patent Examiner, Art Unit 2164